

**REMARKS**

The Applicant thanks the Examiner for the thorough consideration given the present application. Claims 1-19, 22, and 23 are pending. Claim 20 is cancelled herein without prejudice to or disclaimer of the subject matter contained therein. Claims 1-19 and 21 are amended, and claims 22 and 23 are added. Claims 1 and 22 are independent. Examiner is respectfully requested to reconsider the rejections in view of the amendments and remarks set forth herein.

**Restriction Requirement**

The Applicant elected Group I with traverse. The Examiner has withdrawn claims 9-21 from further consideration. By this amendment claims 9 and 21 have been amended and are presented herein as dependent claims depending from claim 1. Claim 20 has been cancelled.

Claim 1 is considered generic. Assuming generic claim 1 is found to be allowable, it is respectfully requested that the Examiner consider and allow all claims depending therefrom, including the withdrawn claims 9-19 and 21. In addition, added independent claim 22 is directed to Group I, and as such should be examined as well.

If the Examiner persists in his restriction requirement, the Applicant reserves the right to file one or more divisional applications directed to the withdrawn claims at a later date if so desired.

**Claim for Priority**

It is gratefully appreciated that the Examiner has acknowledged the Applicant's claim for foreign priority.

**Objection to the Drawings**

It is gratefully appreciated that the Examiner has accepted the drawings.

**Information Disclosure Statement**

It is gratefully appreciated that the Examiner has acknowledged the Information Disclosure Statement filed on November 17, 2003. Note also that another Information Disclosure Statement is being filed concurrently with this Amendment.

**Rejections Under 35 U.S.C. §102(e) and §103(a)**

Claims 1, 2, 6, and 8 stand rejected under 35 U.S.C. §102(e) as being anticipated over Boas (U.S. 6,577,884); and

Claims 3-5 and 7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Boas in view of Lemelson (U.S. 5,995,866).

These rejections are respectfully traversed.

**Independent Claim 1**

While not conceding the appropriateness of the Examiner's rejection, but merely to advance prosecution of the instant application, independent claim 1 is amended herein to recite a combination of elements directed to an optical measuring apparatus, including *inter alia*

wherein said light irradiation section includes at least one optical fiber for passing therethrough the near infrared light, the optical fiber being mounted to undergo predetermined displacement control during the irradiation of the near infrared light from the light irradiation section.

Support for the features set forth in independent claim 22 can be seen, for example, in FIGS. 2, 3, 8, 9, 11, and 12.

By contrast, novel the combination of element set forth in independent claim 1 are not disclosed by Boas (U.S. 6,577,884).

Boas in Fig. 16C merely discloses an optical fiber 432 which is pressed against a scalp surface 402, with pressure generated by displacement of rubber grommet 440a. The apparatus shown in *Boas* is designed to ensure intimate or tight contract of an output end of the optical fiber 432 with the scalp surface 402. To this end, a flexible and elastic cap 410 and the rubber grommet 440 are employed (see column 11, lines 26 and 28 and lines 32 to 36).

With this arrangement, since the optical fiber 432 that forms a light irradiation section of the *Boas* apparatus has an output end held in pressure contact with the scalp surface 402, it is impossible for the optical fiber (light irradiation section) to undergo pivotal motion for scanning or axial displacement for focus adjustment relative to the scalp surface. Thus, the *Boas* apparatus cannot perform an optical measurement with high accuracy over a relatively large surface area.

Contrary to the *Boas* apparatus, the optical measuring apparatus as set forth in independent claim 1 includes a cover member that is attached to the object to be measured, said light irradiation section and said light reception section are positioned out of contact with the surface of the desired portion of the object, wherein said light irradiation section includes at least one optical fiber for passing therethrough the near infrared light, the optical fiber being mounted to undergo predetermined displacement control during the irradiation of the near infrared light from the light irradiation section.

*Lemelson* (US 5,995,866) does not cure the deficiencies of *Boas*. It is true that *Lemelson* shows Fig. 5 a manipulator 70 and motors 71-74. However, structural details thereof are not shown. Furthermore, *Lemelson* discloses the use of piezoelectric devices but no disclosure is provided as to how the piezoelectric devices are mounted. Additionally, since the *Boas* apparatus requires a light irradiation section (optical fiber) to be pressed against the surface of a portion of the to-be-measured object, this arrangement negates any motivation to modify the *Boas* apparatus to include the actuators as taught by *Lemelson* in order to enable angular or axial displacement of the light irradiation section which will lead to separation of the light irradiation section from the surface of the to-be-measured object portion.

### **Independent Claim 22**

In addition, independent claim 22 is added herein to recite a combination of elements directed to an optical measuring apparatus, including *inter alia*

a ring motor mounted on an outer side of the cover member for moving said light irradiation section an axial direction thereof with respect to a surface of the desired portion of the object to thereby adjust a distance between said light irradiation section and the surface of the desired portion of the object to be measured; and

a plurality of piezoelectric elements mounted on an inner side of the cover member for changing an irradiation direction of the near infrared light relative to the surface of the desired portion of the object.

Support for the features set forth in independent claim 22 can be seen, for example, in FIGS. 2, 3, 8, 9, 11, and 12.

By contrast, Boas fails to disclose any mechanism to adjust the light irradiation section in either an axial or an angular direction with respect to a surface of the desired portion of the object to be measured.

Further, as can be seen in Lemelson FIG. 1a and column 6, line 6-8, this document merely discloses a mirror M for scanning in and X or a Y direction. How the mirror M is mounted is not disclosed. Further, as can be seen in Lemelson column 6, lines 33-35, this document merely discloses mirror deflection devices 29 and 30 or a force transducer such as a piezoelectric devices to deflect the beam. No disclosure is made of any mechanism for moving the light irradiation section in an axial direction as presently claimed. Further, no disclose is made of how mirror M or the piezoelectric devices are mounted.

Thus, Lemelson cannot make up for the deficiencies of Boas.

At least for the reasons described above, the Applicant respectfully submits that the combination of elements as set forth in each of independent claims 1 and 22 is not disclosed or made obvious by the prior art of record, including Boas and Lemelson.

Therefore, independent claims 1 and 22 are in condition for allowance.

The Examiner will note that dependent claims are amended merely to place them in a form more typical of U.S. practice.

Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. §102(e) and 103(a) are respectfully requested.

#### **Dependent Claims**

The Examiner will note that dependent claim 23 has been added to set forth additional novel features of the present invention, dependent claims 9 and 21 have been amended to depend from claim 1, and the other dependent claims have been amended merely to place them in a form more typical of U.S. practice.

All dependent claims are in condition for allowance due to their dependency from allowable independent claims, or due to the additional novel features set forth therein.

**CONCLUSION**

Since the remaining patents cited by the Examiner have not been utilized to reject claims, but merely to show the state of the art, no comment need be made with respect thereto.

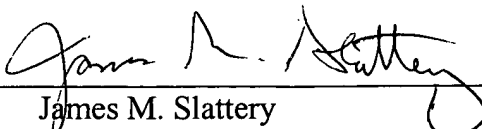
All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. It is believed that a full and complete response has been made to the outstanding Office Action, and that the present application is in condition for allowance.


If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, he is invited to telephone Carl T. Thomsen (Reg. No. 50,786) at (703) 205-8000.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17, particularly extension of time fees.

Respectfully submitted,

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